CDC's AMD Initiative

AMD Projects

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CDC's Advanced Molecular Detection (AMD) initiative fosters scientific innovation to transform public health and protect people from disease threats.

AMD Projects: Treating the Antimicrobial-resistant Gonorrhea Threat

Genomic sequencing of *Neisseria gonorrhoeae* to respond to the urgent threat of antimicrobial-resistant gonorrhea

Blindness in newborns, infertility in women, and severe scarring in the urinary tract of men—these were the outcomes of untreated gonorrhea before antibiotics revolutionized its treatment and cure.

More than 80 years ago, gonorrhea became easily treatable with a single dose of antibiotic. But over the past few decades, public health agencies have seen a growing number of gonorrhea cases that do not respond to the antibiotics that doctors traditionally have used to treat the disease. The threat of these drug-resistant strains is getting worse. If the last recommended treatment stops working, America could once again face the health problems of the early 20th Century.

To fight this urgent public health threat, CDC is using the latest advances in genome sequencing techniques to unlock the DNA of the bacterium that causes gonorrhea. This information is critical to the development of new drugs to treat gonorrhea, as well as better tests to find out quickly if a patient's infection is resistant.

This cutting edge research will tell how the bacteria is changing and help scientists find better ways to prevent gonorrhea. Using these new approaches, CDC hopes to keep untreatable gonorrhea from becoming a reality.

Gonorrhea is increasingly resistant to the drugs prescribed to treat it, and few antibiotic options remain. Research can help unlock the potential to develop new drugs to treat gonorrhea and better tests to find out if a patient has a resistant infection.